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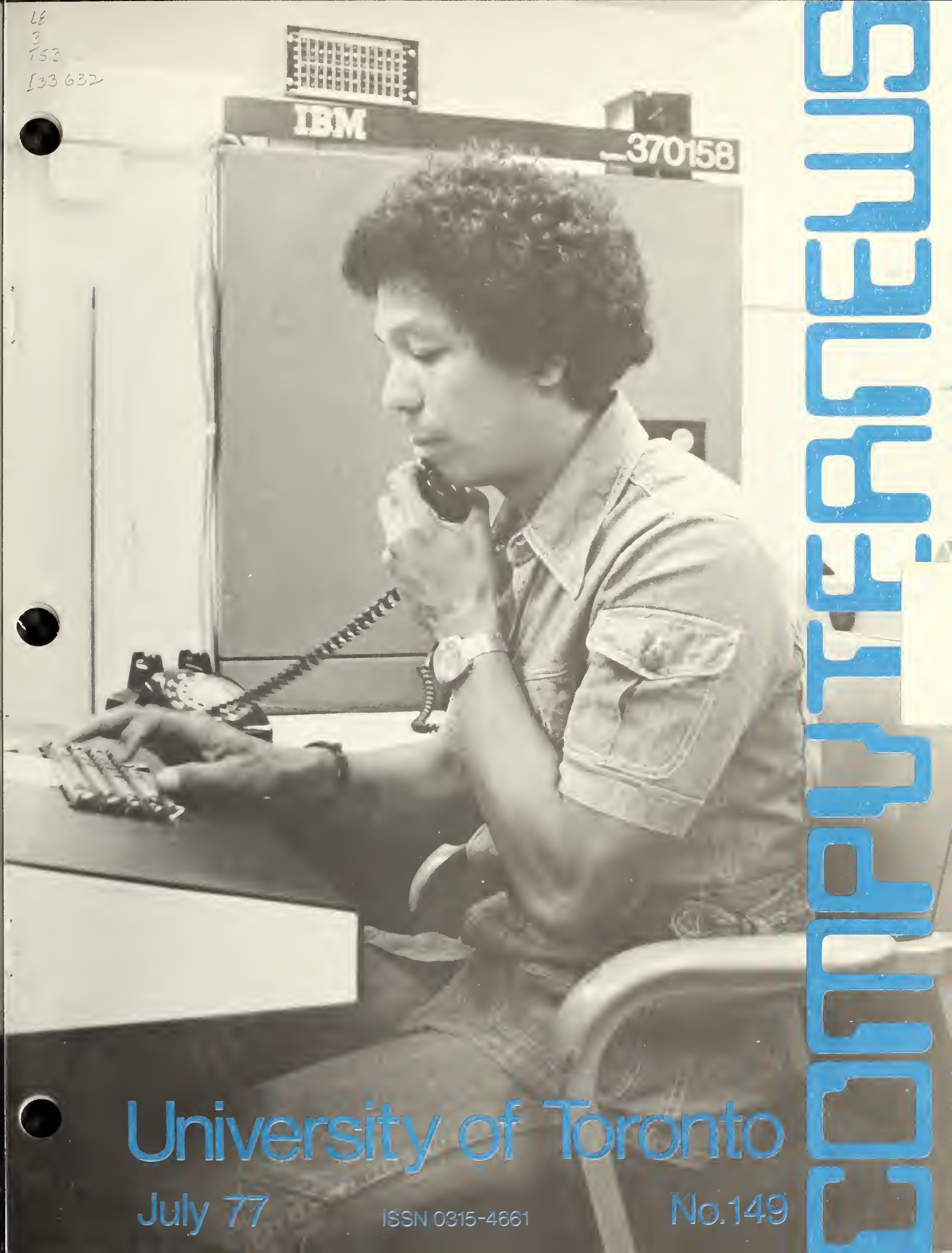

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Janet Campbell, Editor

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158 INSTALLED

This month, the new S/370-158-3 is featured on the cover of COMPUTERNEWS. The installation of the S/370-158-3 proceeded as planned over the July 1st weekend (see last month's COMPUTERNEWS article, "Farewell to the 155"). The machine was newly manufactured, and therefore, some "burn-in" problems were expected. The incidence of problems was much higher than usual and a large amount of downtime resulted. However, the majority of the problems have been resolved, and it is hoped that by the time this article is published, the 158 will have "settled down" to the expected reliability.

Our benchmarks indicate that the CPU on the 158 is 82% faster than that of the 155. The additional memory has also contributed to improving throughput by eliminating all paging activity.

In addition to the 158, the month of July also saw the installation of new dual-density 1600/6250 BPI tape drives and 2 additional 3330 disk drives. These equipment changes should help us make more effective use of the increased power available with the 158.

Sean Keeley

MVS REPORT

UTCC's MVS installation project has been progressing smoothly in the past month.

Phase One Started

Phase One of the 4-phase MVS implementation approach (see COMPUTERNEWS #148 "MVS Phased Implementation") started with UTCC's first public test of MVS on July 22 from 18:00 hours to 24:00 hours. The first test was limited to GPJS Class A and HSJS PL/C, SP/K and WATFIVS. Graphics, special forms, ALLOC/SCRATCH/CONVERT and job routing were not available. A valid HSAC or SAC was required; however, the jobs ran free-of-charge. UTCC was somewhat disappointed in that only a few users participated in the test. Those that did come in enjoyed the benefits of six hours of reliable MVS service at no charge.

The next public test, TEST2, is tentatively scheduled for Friday, August 5 18:00 to 24:00. In general public tests will occur every Friday evening until the end of Phase One. Please watch Hotnews and signs for the announcement of each public test.

WYLBUR

UTCC has purchased an MVS WYLBUR from Online Business Systems (OBS). MVS WYLBUR has been installed and work is progressing on providing accounting routines and tailoring the system to UTCC standards.

Processor Speed-up Unit

The hardware group has checked out the enhanced circuit boards required for the 165-II Processor speed-up unit. Diagnostics on all 4 Megabytes indicate no current problems. Benchmark results will be published in next month's COMPUTERNEWS.

cont'd...

MVS REPORT cont'd

TSO

TSO commands that run under MVT are currently being reviewed for their applicability to MVS. In addition to the standard TSO commands provided by IBM, the following is a minimal list of local commands and Program Products that will initially be supported under MVS:

COMPRESS
REGISTER
SCRATCH
LISTM
WHATSYS
FORMAT
LIST
PLI
TESTFORT
MODDIREC
SASGO
SCRMEMB
SPITERM
NSCRIPT
RLSE
SPEAKEZ
ASM
COPY
FORT
MERGE
PLIC
ISPEAKP
SAS
SASSORT
SPIT

Base System

The MVS operating system has been maintained to the 7104 level. JES2 is currently at the 4.1 level. All outstanding high priority problems encountered so far have been fixed. About 20 medium to low priority problems are in various stages of documentation and resolution.

Walter Berndl

HOURS OF SERVICE - LABOUR DAY

The following hours of service will be in effect for S/370-165-II users during the Labour Day Holiday period:

Sept 3 (Saturday)	Sept 4 (Sunday)	Sept 5 (Monday)
10:00-18:00	10:00-18:00	CLOSED

Hours of service for S/360-65 users will be:

9:00-18:00	9:00-18:00	unattended

Normal hours of service for both systems will resume Tuesday, September 6, 1977.

Paul Scarborough

DEC SYSTEM 1060 NEWS

As announced in last month's issue of COMPUTERNEWS, UTCC has ordered a DEC 1060 computer to handle the Univeristy's interactive computing requirements. The initial software ordered for the 1060 is as follows:

TOPS10 Virtual Memory Operating System
GALAXY10 Batch System
ASSEMBLER
EDITOR
Fundamental Utilities
FORTRAN10
ALGOL10
BASIC10
COBOL10
APL10/SF
CPL10

cont'd...

DEC SYSTEM 1060 cont'd

UTCC is also investigating other software packages and languages. However, cost is a major consideration. A copy of the DEC Application Software Index is available at the UTCC Information Office in the Engineering Annex, room 206. Users are invited to review the lists of software packages and costs. UTCC has hired Dr. Ed West to assist in the implementation of our DEC System.

Users wishing more information concerning the DEC System are invited to contact a Computing Co-ordinator, a Customer Services Representative or me. Please watch for further news in future issues of COMPUTERNEWS.

Stan Yagi

OFF THE TOP

'Off the Top' is intended to provide an informal forum for the discussion of ideas, policy, and the role of the Computer Centre. Topics of discussion should not be interpreted as Computer Centre policy unless so stated. We hope that the readers of COMPUTERNEWS, both customers and UTCC staff, will use this space as a medium for the exchange of information.

HIGH SPEED JOB STREAM OF THE FUTURE

SCENARIO I (The Present)

Long lineups. Paper everywhere -- on the floor, on chairs, on the keypunches. Cards -- bent, folded, multilated, and trampled. The whir, whine and hammering of card readers, line printers, and keypunches. And the heat -- heat from machines, heat from weary programmers, and heat from short tempers.

The above sounds like a description of a sweat shop. Actually it is a description of the ASUT or EUT Terminals during a period of peak usage. Even in the middle of winter, these two terminals are hot, stuffy, and crowded, and it is extremely difficult for the students to work efficiently under these conditions. Some users try to avoid the crush by programming between midnight and 6 A.M.

SCENARIO II (The Future)

No lineups. Space to work; to think. A quiet, cool room; carpeting. No cards, no clutter. The quiet tapping of keys. Individual, reserved terminals; free of interruptions.

This scene is in marked contrast to the present setup for the HSJS Terminals. With the growing trend in industry towards distributed computing and terminal clusters, the technology exists to transform HSJS Terminals into pleasant working environments. UTCC is in the initial stages of investigating alternate methods for handling the large volume of data entry at the HSJS Terminals. We hope that new technology will allow us to offload the big machine so that most small transactions, which make up the High Speed stream are handled by a mini computer.

Our investigation of how to create a better HSJS is only in its infancy. We do not yet know what final form the improved service will take. We hope that you, the users of this service, will make comments and suggestions.

cont'd...

OFF THE TOP cont'd

In order to give you a better idea of what we have been thinking about, we have put together the following question and answer session to describe a hypothetical but possible setup for the High Speed Job Stream of the future.

1. You mention the word cluster. What does it mean?

   It means that there are two or more terminals connected to a minicomputer which performs some of the basic editing tasks and acts as a connector to the main computer.

2. Where will the new HSJS terminal(s) be located?

   UTCC envisions the distribution of terminals throughout the University of Toronto, near the ultimate users. Possible locations include dormitories and class rooms. Since the clusters are modules, they can be added where they are needed and can be expanded as required.

3. What will a cluster contain?

   Between 4 and 32 cathode ray tube terminals (CRT's) called work stations, a minicomputer with one of several different sizes of memory, a slow speed line printer (about 200 lines per minute), an optional cassette/diskette reader.

4. How would a user get to use a terminal?

   A large proportion of the terminal time would be booked. There would be several ways to get access to the cluster:

   a. by going to a terminal cluster and use an available machine.

   b. by booking time in advance at any one of the clusters either by using one of the reservation workstations scattered about campus or by calling a phone number.

   c. by using one of the reserved terminal areas during a scheduled laboratory tutorial.

   d. by telling the system before you sign off that you wish to book time on a machine.

   e. by dialing into the system from a private terminal.

4a. Would there be a limit on the time I could reserve?

   Yes, time slots would be for between 1 hour and 4 hours. And each user would be guaranteed only a certain quota of reserved hours per week. The quota would be established when the account is initialized.

5. O.K. If I am sitting at a work station. What could I do?

   You could create a new file, edit an existing file, submit jobs, retrieve jobs, or route jobs. You could perform a wide variety of tasks which would convince you that the system is easier to use than cards.

cont'd...

OFF THE TOP cont'd

6. How could I enter information into the machine?

   The system would have a simple, easy to use editor to add text, change text, or delete text. All information would go into a file called the active file.

7. How could I save a file permanently?

   There would be commands for saving a file either onto a system disk or onto a diskette or a cassette. Files saved on the system could be retrieved while files that are saved on a diskette/cassette would have to be reloaded by using a cassette/diskette reader. Cassettes/diskettes would be fairly cheap and would be purchased through the text book store or through the computer centre.

8. But the printers are all slow speed. How could I look at my output?

   The same editing functions provided for files containing programs and data could be used for output (print) files. However, users would not be able to make modifications to print files. You could look at the output through the terminal. Output could be scanned a page at a time.

9. There would have to be some limit on the size of the file or the number of files. What would it be?

   The total size of all files for a particular account could not exceed the workspace quota for that account. If you would try to save more, the system would inform you and suggest that you delete one of your existing files or dump it onto a diskette.

10. How could you get a hard copy of a file?

    You could get the file into the active workspace and then use commands to route the file to the printer.

11. Could I route output to someone else?

    Yes, you could route files to a tutor but not to a classmate. The tutor could then grade the assignment easily. The system could allow you to route jobs only to privileged users. Routing it to anyone else would cause the output to be dropped into the garbage.

12. How would I submit a job?

    You would submit the active file. The system would tell you when the job had finished. But you could only submit one job at a time.

13. Sounds great. When can we use the system?

    The system is only in the rough draft stage. A reasonable implementation plan is to proceed in phases. A test site would be established and reserved for tutorial use with tutorials chosen at random from classes whose professors wish to use the system. With the experience gained, the system could then be expanded.

Mark Tapia

DOCUMATION CARD READERS ON TRIAL

Ashworth Automation will soon be sending a Documation model 6501 card reader to the Sandford Fleming Terminal for a 60 day test. If at the end of the test period the 6501 meets the criteria of being functionaly equivalent to an IBM 2501, as reliable as the 2501, and is operationally feasible for our customers to use then the centre will purchase two of these readers for the new terminal location in the Engineering Annex.

The decision to investigate this reader was arrived at after studying a number of alternatives. Initially we hoped that it would be possible to drive the EUT - SFT combination by utilizing an IBM 360/30 as a work station. Unfortunately, this solution, while very attractive financially, would not have provided adequate resources to drive the equipment effectively. We also considered a device called a PIX which in essence is a sophisticated channel extender. This time the solution was technollogically desirable but not economically feasible.

The arrangement which we have decided to proceed with is that of using the IBM 2944 channel extender presently being used to drive EUT to drive the new SFT as well. The economic advantage of using something you already own is obvious. Again, however, there are technical considerations. 2501 card readers, (i.e. our present card readers) are unbuffered devices and because of this, more than one should not be put on the same leg of an extended channel as over-runs are likely to occur; resulting in the loss of data.

To avoid the over-run problem, it is necessary to replace two of the three unbuffered 2501's with buffered readers. The Documation 6501 is a buffered device. The 6501's have obtained a reputation of reliability while being resonably priced. Unfortunately, they have one known disadvantage. They are not capable of 2501-compatible mark sense. The means by which we keep the mark sense feature is very dependant upon how the 6501's are accepted.

If they prove to be as acceptable for new, inexperienced students, one 6501 may be placed in EUT leaving the other 6501 and the mark sense 2501 for SFT. (NOTE: due to problems previously encountered, we do not want to place the mark sense 2501 in EUT). However, if the reader is too complicated for novice students, the 2501 will remain in EUT and the two 6501's will be located in SFT, and the mark sense 2501 will be kept at the central machine site.

We are hoping that the trial 6501 will arrive in August. It will initially be located in the old Sandford Fleming Terminal. We urge you to try the new reader and make your impressions and comments known to us.

Don Gibson

NEW TAPE DRIVES ON S/370-165-II

IBM completed the installation of the new S/370 Services drive configuration on July 3, 1977. The only hardware problem we experienced was with the second 800 BPI drive which IBM corrected after extensive maintenance. Available for user allocation are:

cont'd...

NEW TAPE DRIVES cont'd

Four IBM 3420 9 track 1600/6250 BPI drives
Two IBM 2401 9 track 800 BPI drives
Two IBM 2402 7 track 256/556/800 BPI drives

Because of this change, UTCC is able to simplify and expand the facilities of the TCOPY programs. An update to USERBOOK module 3.3TAPES documenting the new facilities will be available soon. Most of the old procedures will continue to work without user changes. However, users are cautioned to always use the DEN parameter in the DCB statement regardless of whether the job reads or writes a tape volume. With this installation, users may now mount up to four 6250 BPI tapes simultaneously if required for their application. Users with questions concerning the new tape drives should contact Herb Kugel at 978-7286.

Herb Kugel/Paul Scarborough

SCARBOROUGH COLLEGE COMPUTING CO-ORDINATOR

I am pleased to announce the appointment of Ihor Prociuk as Computing Co-ordinator at the Scarborough College Terminal.

Ihor (the 'I' is pronounced like the letter 'e') has a M.Sc. degree in Astronomy from the University of Toronto. During the course of his studies, he almost became a resident at the New Physics Terminal, making extensive use of computer facilities, particularly the plotting packages. He has also had experience programming a PDP-8/e for on-line control of a scanning microdensitometer which gathered data from astronomical photographic plates.

Ihor is not a complete stranger to UTCC. On two previous occasions he has worked part-time as New Physics Terminal operator. He has developed a keen interest in expanding computer applications to a wide variety of academic and non-academic tasks.

His other computing interests include data storage and manipulation and interactive systems, particularly graphics and documentaion. He enjoys learning new computer languages and hopes that this compensates for a strong dislike of Latin in high school.

Anyone having any questions regarding the Scarborough Terminal may contact Ihor in Room S630 at Scarborough College or call 284-3173.

Ralph Lombardi

NEW EQUIPMENT INSTALLED AT SCARBOROUGH

During the third week of July, new equipment was installed at the Scarborough College Terminal. The old REMCOM system (one card reader; one printer) was replaced by two DOCUMATION card readers and two TELETYPE 40 line printers. The new hardware is driven by an equally new DEC PDP 11/10 processor. Also, the UNIVAC VIP card punch was removed and replaced with a TAB keypunch interpreter.

cont'd...

NEW EQUIPMENT cont'd

Although the new equipment takes up more physical space, Scarborough users will appreciate the simplicity of operation and reduced noise levels. Experience with similar equipment at the Zoology terminal has also indicated increased overall throughput and reliability even though the new system does not have greater reading or printing speeds than the previous system.

Alas, many users will be disappointed to hear that Dr. J. Amdahl, (see May '77 COMPUTERNEWS) will not be present at the dedication of the new RJE system. His short dissertation on "How I Learned To Love Computers" has received rave reviews on other such occasions. However, Ihor Prociuk, the new Computing Co-ordinator for the Scarborough terminal will be on hand to answer any questions related to the new system. Users are invited to come out to Scarborough and try out the new equipment.

Ihor Prociuk

PL/I, SORT/MERGE, AND COBOL UPGRADES

PL/I OPTIMIZER and CHECKOUT Release 3.0, SORT/MERGE Release 1.4, and COBOL ANSI3 Release 3.3 became the default processors in July. New functions and changes have been incorporated into PL/I Release 3.0 to improve performance and increase usability. Major areas of interest include Structured Programming Support, Cross Reference Listing, Preprocessor Improvements, and Attention Handling. Detailed documentation is contained in the latest releases of the PL/I Language Reference Manual and Programmer's Guide. The new releases of SORT/MERGE and COBOL contain only fixes to known problems.

If there are any questions or problems, please contact Kin Fong at 978-4924.

Kin Fong

SPSS VERSION 7.0

Version 7.0 of SPSSH (i.e. the 500 variable version) has been installed on our system. Differences between versions 7 and 6 are outlined below. To get version 7, use

```
// EXEC SPSS,VERSION=H70
```

The default version remains at VERSION=V602 until about 1 Sept. (The maxi-version, up to 1000 variables, is obtained as before by coding VERSION=M. A new release of maxi has been ordered, but until it can be installed, beware of the differences between versions 6 and 7). The procedure has also been upgraded so that extra JCL cards for 'SORT CASES', 'MERGE FILES', and 'GET ARCHIVE' are no longer needed.

In addition, version 5 is no longer available through the procedure SPSS but has its own procedure, SPSSV5. It is our intention to delete version 5 from the system by 1 Sept. Any user having questions with respect to the removal of version 5 should call John Roth at 978-6878.

cont'd...

SPSS VERSION 7.0 cont'd

Version 7 is essentially a superset of version 6 and offers the following enhancements.

Three new procedures:

- MULT RESPONSE makes possible analysis of questions to which more than one choice can be made.
- NPAR TESTS allows calculation of various nonparametric statistics.
- RELIABILITY computes coefficients of reliability and can perform an analysis of variance on a repeated measures design.

Some new features include:

- SAVE TRANSPOSE allows saved system files to be used with SCSS, the conversational system which runs under TSO, which is now available on our system (see CONVERSATIONAL SPSS (SCSS) IS HERE).
- LAG data transformation to allow calculations across cases.
- extended input facilities to allow the input of binary, packed decimal and hexadecimal data items.
- several other changes increase options available and fix bugs.

The important differences are as follows:

- Multiple SELECT IF statements are now considered to be connected by AND, not OR. (Your SPSS Co-ordinator always thought this was more logical, but is not pleased by this direct reversal.)
- Some memory requirements have changed. In general, data transformations will use less and some procedures more.

Details of these changes are contained in the SPSS BATCH RELEASE 7.0 UPDATE MANUAL (March 1977) which can be purchased from the UTCC Information Office in the near future.

Anyone with questions regarding these changes or desiring more information should call John Roth at 978-6878.

John Roth

CONVERSATIONAL SPSS (SCSS) IS HERE

The SPSS Conversational Statistical System has just arrived at UTCC and is now running under TSO on the S/370-165-II. In order to use SCSS, enter the command b̸b̸b̸SCSSb̸b̸. Note that a system file must have been saved by the SAVE TRANSPOSE facility of Release 7.0 of batch SPSS.

Currently, documentation for SCSS is available only in machine-readable form on the distribution tape. However, UTCC will prepare hard copy documentation for our users and make it available at the Information Office. More detailed articles on SCSS will appear in future issues of COMPUTERNEWS as your SPSS Co-ordinator becomes more familiar with SCSS. Users who wish to get a head start with SCSS should contact John Roth at 978-6878.

John Roth

WYLBUR WORDS

The WYLBUR Tutorial has been reprinted and is now on sale (at cost recovery price) in the UTCC Information Office. We are grateful to the Stanford Centre for Information Processing for giving us permission to reprint this item. The Tutorial is a "self-teaching" introduction to WYLBUR.

UTCC is planning to implement the Online Business Systems version of WYLBUR when the MVS version of the Operating System is installed. This version will be quite similar to our present version but will contain a few new features. Further details will be forthcoming.

Several users have expressed interest in a cost comparison of WYLBUR and TSO so an informal study has been undertaken. Similar sessions are run on both systems and the job costs are compared. The results of this study will be published in next month's issue of COMPUTERNEWS.

Ian Darwin

SCRIPT SIMPLIFIES

UTCC has just received and installed the May 1977 version of Waterloo SCRIPT. Major enhancements in this version are multi-column formatting, SYSPUB, and a new TSO prompter.

Multi-column formatting allows more than one column per page (as with the current COMPUTERNEWS, which is currently made into two columns manually, using output from ATS/360). SYSPUB is a facility for the simplified preparation of 'standard' format documents such as reports, theses, etc. Basically, SYSPUB supplies all the necessary SCRIPT control words for the appropriate format and also for section headings, tables of contents, etc.

The new version has been installed on Batch GPJS and is the default. To access the old version, code VER=6 on the // EXEC SCRIPT statement. The new TSO prompter provides a default LIBRARY dataset of 'APPL.SCRIPT.SYSLIB'. This makes SYSPUB and the UTCC public IMBED files available automatically. The new prompter can be accessed by the NS7 command; it will become the default on September 1.

SYSPUB is described in the SYSPUB manual, which users can obtain by coding:

```
// EXEC SYSPUBMN,FORMS=2009
```

TSO users may code:

```
offline 'appl.script.syspubmn' f(2009)
```

In all cases the FORMS 2009 may be omitted or altered. In case of problems please contact your Computing Co-ordinator or Ian Darwin, at 978-7318.

Ian Darwin

WATFIVS ON THE HSJS

Currently two versions of the WATFIV compiler are available on the High Speed Job Stream - WATFIV Version 1 Level 3 and WATFIVS Version 1 Level 5. The WATFIVS compiler contains all of the language features of the old version of WATFIV. The following list summarizes the differences between WATFIVS and WATFIV:

1. The WATFIVS compiler provides the users with additional language and debugging features, including Statement tracing and Statement profiling. Full documentation on the WATFIVS compiler is available in the USERBOOK Module 3.6HSWATFIVS.

2. WATFIVS corrects some of the problems in WATFIV. In particular, the user is no longer required to specify the types of any built in functions.

3. The control cards have been changed:

   a. The $JOB card is no longer fixed format. All options are either of the form

```
      Keyword=value   or   Keyword
(e.g. TIME=3.0             LIBLIST)
```

   Thus, to specify the maximums code the following:

```
$JOBV ID='NAME',P=5,T=3.0
```

   b. a $OPTIONS card has been added as well as cards to enable and disable statement tracing.

4. All of the scratch files (Units 1,2,3 and 4) are only temporary and will be deleted at the end of the job.

5. At most 300 lines or 5 pages of output can be produced.

On September 1, 1977 the old version of the WATFIV compiler will no longer be available on the High Speed Job Stream. After that date, the $JOBW and $JOBV cards will both access the WATFIVS compiler. After October 1, 1977, $JOBW card will no longer involve WATFIVS.

Users who anticipate any problems in the conversion should contact Mark Tapia at 978-7109.

Mark Tapia

P.S. ... P.S. ... P.S. ... P.S.

PLAY GAMES WITH THE COMPUTER

Tired of working the computer? Did you know that you can play games with the computer? All you need is some time, an account (with money in it), and a terminal.

Play computer Hangman - the computer chooses a word and asks you to guess the letters that make up the word. Once you think you are ready to guess the entire word, type the word. The computer will tell you whether your guess is correct and will also inform you of the number of turns it took you.

cont'd...

P.S. ... PLAY GAMES cont'd

For bridge fans there is a computer bridge dealer. A pair of bridge hands is dealt to your specifications. Those hands can be used for practice in bidding. You can restrict the total point count of the two hands and specify the distribution. Thus, to improve your bidding in "no trump", you can specify that you want one hand to have a point count of 16 to 18 points with a balanced suit distribution.

Perhaps you like to gamble. You could play poker with the likes of Wild Bill, Maverick, 4 Flusher, Black Bart, Turkey, and Billy Kid. There is a choice of 5 card with no draw, 5 card stud, or 7 card stud. You can play any one variation or all three. The computer keeps track of everyone's wins and losses, and at the end of the session, shows how everyone did.

Mastermind is a game in which your opponent is the computer. One player (you or the computer) choses 4 colours (from a possible six) in a specific order. The other player must then guess these colours, in the right order, in 12 moves or less. For each guess, a 2 digit answer is given. The first indicates the number of colours that were right, and in the right position; the second indicates the number of colours that were right, but were not in the right position. To give up, just enter a '?' and the computer will tell you what the answer is ... but then, of course, you've lost.

For the "Trekkies" you can be Captain Kirk and command the Starship Enterprise in war against the Klingons. The game includes Romulans who can be friends, enemies or neutral, Organians who enforce truce, Horns who eat everything in their path, and Black Holes which drain energy until asphyxiation occurs. When you need to refuel, you head for the nearest Starbase. Some of the commands provide information. Other commands allow you to do things like change course, do a long range galaxy scan, fire phasers and torpedoes, self destruct, and let the M.5 take command. You can choose different levels at which to play Star Trek depending on your skill.

These are some of the games that you can play with the computer. For more information, look in the Sharp APL catalogue. But beware!! The games can be costly, addictive, and furthermore are not supported by the Computer Centre!

Sandra Yen

PERSONNEL CHANGES

Joining us this month are Merton Hunte, David Sansom, Andrew Mountain, Ihor Prociuk, and David Hart.

Ihor has been with us on a part-time basis in the past years and recently at the New Physics Terminal. Dave Hart has come back to work with us again after living in Ottawa for about 1 1/2 years.

cont'd...

PERSONNEL CHANGES cont'd

Welcome back Dave. Dave is with the Systems Group as a programmer in Development and Ihor is the new Scarborough Computing Co-ordinator. Merton is a new accounting clerk in the Administration Office; David Sansom and Andrew Mountain are new Computer Operators at the Sandford Fleming Terminal.

Janet Latimer has transferred from the Sandford Fleming Terminal to the tape/disk area at S/370 Services, replacing Adam Love.

Leaving us this month are Dave Mitchell who has transferred to the Physics Department and Adam Love who has joined Data Crown. Best of luck to you both.

Trudy Holland

RECENT ACQUISITIONS IN THE DEPARTMENT OF COMPUTER SCIENCE LIBRARY

Ghosh, Sakti P.
Data base organization for data management.
New York, Academic Press, 1977.

Lapidus, Leon, and Schiesser, W.E., eds.
Numerical methods for differential systems: recent developments in algorithms, software and applications.
New York, Academic Press, 1976.

Schwartz, Mischa.
Computer-communication network design and analysis.
Englewood Cliffs, N.J., Prentice-Hall, 1977.

Strang, William Gilbert
Linear algebra and its applications
New York, Academic Press, 1976.

Welsh, Dominic J.A.
Matroid theory
London, Academic Press, 1976.

UTCC SYSTEMS

SYSTEM/370 MODEL 165-II

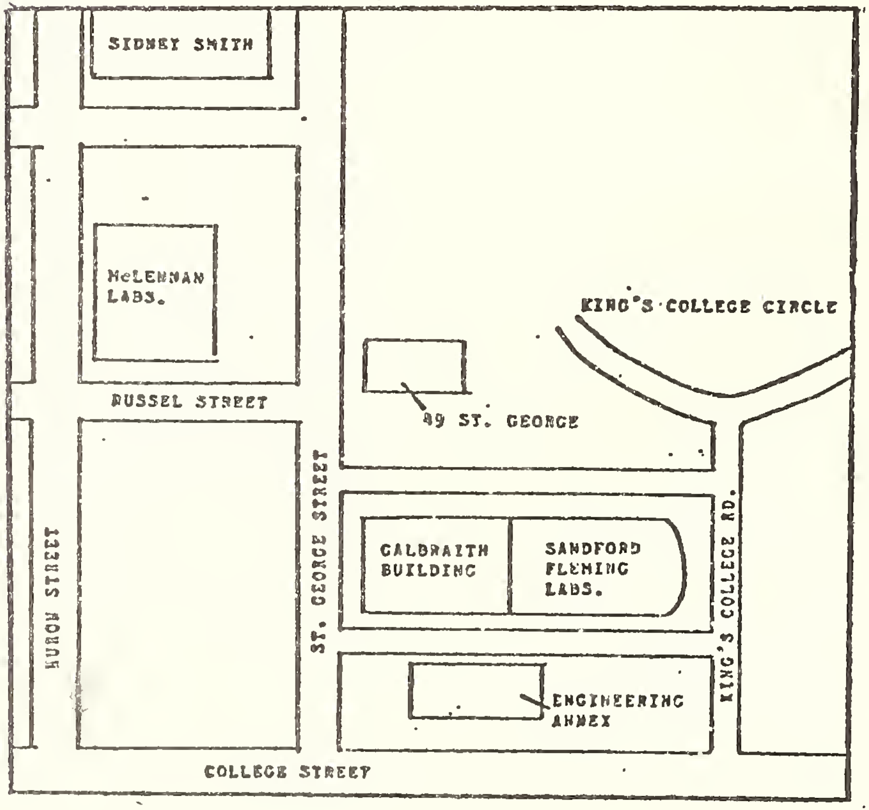
- located in SF103/105/112
- provides General Purpose Job Stream, High Speed Job Stream, APL SV, TSO, WYLBUR
- 4 megabytes of memory
- OS/MVT with HASP

SYSTEM/360 MODEL 65

- located in McLennan Physical Laboratories
- provides APL and ATS services
- 1536K bytes of core
- OS/MVT with APL and ATS

COMPUTER RESEARCH FACILITY

- located in SF207
- DEC GT44 System with PDP-11/40 CPU
- DEC GT40 System with PDP-11/05CPU
- provides specialized graphics and interactive graphics
- provides on-line and real-time computing services, data acquisition and minicomputer services



UTCC DIRECTORY

ACTING DIRECTOR

Rein Mikkor	NP351	5058

INFORMATION OFFICE

General Inquiries	EA206	4990
Marg Doherty	EA206	8995

MANAGER, SERVICES

Stan Yagi	SG200	7331

INFORMATION SERVICES

Don Gibson	EA206	5568

SUPERVISOR, CUSTOMER SERVICES

Bill Foster	SG301	6021

SUPERVISOR, PROGRAMMING SERVICES

Helen Peacock	SG201	6877

SUPERVISOR, APPLICATIONS

Herb Kugel	SG304	7286

COMPUTING CO-ORDINATORS

Sandford Fleming Terminal		
Mark Tapia	EA207	7109
Program Advisors	EA207	8599
Erindale		
Clem DiPlacido		828-5311
Scarborough		
Ihor Prociuk		284-3173
Arts and Science		
Jill Reece	SS2104	6509
New Physics		
Bob Chambers	NP1201	8823

MANAGER, OPERATIONS

Derry Cox	EA206	7092

SUPERVISORS, OPERATIONS

Paul Scarborough (S/370-165-II)	SF105	6220
Kam Jain (S/360-65)	NP333	7374
Dave Wong (S/370-155)		6864

MANAGER, SYSTEMS

Rein Mikkor	NP351	5058

SYSTEM HARDWARE SUPERVISOR

Eugene Siciunas	EA206	4967

MANAGER, COMPUTER RESEARCH FACILITY

Dennis Smith	SF207	4086

LAB CO-ORDINATOR (CRF)

Krishna Patnaik	SF207	4086

ACCOUNTS

Sylvia May	EA206	7148
Merton Hunte	EA206	8702

ACCESS CODES

Gail Cavers	EA206	8703

MANAGER, INFORMATION SYSTEMS

Sean Keeley		3579

NOTE:

EA = Engineering Annex
SF = Sandford Fleming
SG = 49 St. George
NP = McLennan Physical (New Physics)
SS = Sydney Smith

JOB AND SYSTEM STATUS QUERIES

SYSTEM/370,TSO	7373
ATS/APL	6234
2741 TERMINAL MALFUNCTIONS	7107
029 KEYPUNCH MALFUNCTIONS	6465

SERVICES

	DIAL-UP	ADVICE
APL - 2741	7200	6710
APL(ASCII	7200	6710
APL SV - 2741	7239	6710
APL SV - TTY	7447	6710
ATS	7100	7107
TSO - 2741	7303	8599
TSO - TTY (10 cps)	7390	8599
TSO - TTY (30 cps)	7386	8599
DATATALK	6710	6710
WYLBUR	7235(EBCDIC) 3950(ASCII) CENTREX 3954(ASCII) NON CENTREX	8599

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